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IN THE

Supreme Court of The United States

October Term, 1973

No. 73-313

R. Lee Fraser, Petitioner

v.

Continental Realty Corp., a corporation Century Building Corp., a corporation International Environmental Dynamics, Inc., a corporation, Cann Termohlen, Architects, Oak Ridge Construction Company, a corporation, and Heede International, Inc., Respondents

Petition for a Writ of Certiorari to the United States Court of Appeals for the Fourth District

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Petitioner respectfully prays that a writ of certiorari issue to review the judgment of the United States Court of Appeals for the Fourth Circuit entered in the above case on March 21, 1973, petition for rehearing denied on April 17, 1973.

Opinion Below

The order of District Judge Knapp granting respondents' motion for summary judgment was accompanied by an unreported memorandum opinion which appears in Appendix A, infra, p. A-1. The unreported per curiam opinion of the Circuit Court of Appeals affirmed on the opinion of the district judge (printed in Appendix B, infra, p. B-1).

Jurisdiction

The judgment of the Circuit Court of Appeals was entered on March 21, 1973. Petitioner's pro se letter requesting modification of the decision of the three judge panel was treated as a petition for rehearing and, as such, was denied by the panel on April 17, 1973 (printed in Appendix B, infra, p. B-3).

The jurisdiction of this court is invoked under 28 U.S.C. §1254 (1).

Questions Presented for Review

I. Whether petitioner's patented process for the construction of a building was infringed upon or not by respondents' method of construction?

II. Whether petitioner's patent claim terminology encompasses

respondents' method when viewed in light of the definitions contained in the specifications?

III. Whether petitioner's single core has been merely duplicated by respondents' twin cores with no apparent change in method or result?

IV. Whether summary judgment was unwarranted in light of a factual dispute as to non-infringement?

Constitutional Provisions, Statutes, and Rule Involved

Article 1, Section 8:

"The Congress shall have Power ... to promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries; ... "

Amendment V:

"No person shall be ... deprived of life, liberty, or property, without due process of law; ... "

Statutes:

The applicable statutory provisions concerned herein are those of Title 35 U.S.C. dealing specifically with patents and patent infringement. These provisions appear in Appendix C, infra, p. C-1.

Rule:

The rule giving the District Court power to grant respondents' motion for summary judgment is Rule 56 of the Federal Rules of Civil Procedure. Rule 56 is printed in Appendix C, infra, p. C-3.

Statement of the Case

1. Course of proceedings in the patent infringement action now before this Court.

This is a patent infringement suit instituted by petitioner, a Memphis, Tennessee, engineer, on June 16, 1972. Petitioner maintains that his patented process, entitled "Method of Constructing a Building," #3,260,028, patented July 12, 1966 (printed in Appendix E, infra, p. E-1), has been infringed upon by respondents' method of construction of the Downtown Holiday Inn in Huntington, West Virginia.

Respondents are associated with the construction in question as follows: Continental Realty Corp. - owner and financer; Century Building Corp. - developer; International Environmental Dynamics, Inc. - designer; Cann Termohlen, Architects - designer; Oak Ridge Construction Company - general contractor; and Heede

International, Inc. - subcontractor.

Petitioner filed this civil action pursuant to 35 U.S.C. §281 (printed in Appendix C, infra, p. C-3) in the United States District Court for the Southern District of West Virginia. Original jurisdiction was conferred on the District Court by 28 U.S.C. §1338 (a). Venue was properly obtained under 28 U.S.C. §1400 (b) because respondents were doing business in the Southern District of West Virginia. Process was thereby served in accord with 28 U.S.C. §1694.

On July 18, 1972, defendants-respondents Continental Realty Corporation and Oak Ridge Construction Company filed their answer and, under Rule 56 of the Federal Rules of Civil Procedure, a motion for summary judgment. After hearing oral arguments of counsel on August 24, 1972, District Judge Knapp issued a memorandum order granting respondents' motion, judgment being entered on September 22, 1972. Petitioner's motion to alter or amend judgment made under Rule 59 of the Federal Rules of Civil Procedure was thereafter denied.

On October 20, 1972, petitioner appealed to the Fourth Circuit Court of Appeals pursuant to 28 U.S.C. §1291. Oral

arguments of counsel were heard on March 6, 1973, and judgment was entered on March 21, 1973. In a per curiam opinion, the three judge panel affirmed on the opinion of the district judge. Subsequently Mr. Fraser's pro se letter to the panel requesting modification of their decision was treated as a petition for rehearing and denied as such on April 17, 1973.

II. Relevant facts concerning the underlying claim of patent infringement.

Petitioner's "Method of Constructing a Building" is a patented process whereby buildings can be erected in a novel and useful manner. This procedure permits the construction of multi-level structures by an efficient use of materials and labor resulting in a saving of time and money. Thus, it is the utilization of the process, not the result achieved thereby, which provides scientific and engineering worth.

Viewed on its simplest level, this process teaches a 3-step construction method. First, a large central core is erected upward from the ground. Next, a floor surrounded by tensile bands is built around the core and adjacent to the ground. Then, lifting devices are attached to the floor and the core; and, by using the

core as a mast, the floor is hoisted vertically to a position near the top of the core. This procedure is repeated until the building has the desired number of floors, or levels, with each floor also serving as the ceiling for the level immediately below.

The large central core does not only serve as a conduit for the lifting, or hoisting, devices. Once the floors are lifted into their respective positions adjacent to the core, each floor is attached to the core so as to provide the necessary support. The core is further useful in that its large interior permits the construction of elevators, stairways, utilities, etc. within the core itself.

The wording in the patent used to describe the core, and the interpretation of that wording, is the essence of the dispute presently before this Court. As shown by the patent application, serial #296,661, dated July 22, 1963, appearing in Appendix D, infra, p. D-12, petitioner originally described the core as a "central substantially cylindrical core." After a subsequent letter by the Patent Examiner rejecting petitioner's application and suggesting possible alterations (see Appendix D, infra, p. D-23), petitioner amended his claim by adding the words "large single" so as to describe the core as a "central substantially large single cylindrical

core" (emphasis added) (Appendix D, infra, p. D-25). Thereafter, the patent application was granted.

Petitioner's action for infringement of his patent is based upon respondents' method of construction of the Downtown Holiday Inn in Huntington, West Virginia. That structure, envisioned as a multi-level motor hotel, practices the teachings of petitioner's patent. Respondents' construction process utilizes petitioner's "Method of Constructing a Building" in toto with two variations, both of which, as will hereafter be shown, are protected by the patented process.

The first variation is that, instead of erecting one large central core, two large cores have been erected in a position whereby each core is centrally located in respect to, and in support of, that particular one-half portion of the total structure in which each core sits. That is, each core is positioned symmetrically to perform the identical function of the other. The second variation is that, instead of a cylindrically shaped core, respondents' core is rectangular in shape.

Respondents' duplication of petitioner's single core and alteration of its shape from cylindrical to rectangular does not remove the method from the protection of petitioner's patent.

Respondents proceed exactly as petitioner's patent specifies by next building a floor around the cores and then hoisting that floor to the desired height and attaching it to the cores. Also, respondents repeat this method until the required number of levels are assembled, lifted, and firmed into place.

As taught in petitioner's patent, respondents' method of construction utilizes the two identical cores as support for the uplifted floors. Each core is independently responsible for the lifting and support of one-half of the total weight load of each floor, so that each core in respondents' building duplicates petitioner's single core concept. In addition, respondents' twin cores also function as does petitioner's single core in that the large interior of the cores provides space for elevators, stairways, utilities, and the like.

Reasons for Granting the Writ

1. Petitioner's patented process for the construction of a building has been infringed upon by respondents because respondents' method is neither invention nor non-obvious when compared to petitioner's patent.

This Court is implored to grant petitioner's writ so as to afford

him the protection to which he is entitled by virtue of Article 1, Section 8 of the Constitution:

> "The Congress shall have Power ... to promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries; ..."

This "exclusive Right" may be enforced in a civil action under 35 U.S.C. §281 whenever another "without authority makes, uses, or sells any patented invention," thereby infringing the patent. 35 U.S.C. §271(a). Further, this particular patent infringement suit may be reviewed upon writ of certiorari because the nature of the questions presented makes a review desirable even though there is no conflict of decision as to the scope or validity of the patent. Exhibit Supply Co. v. Ace Patents Corp., 315 U.S. 126.

Petitioner's patent is for a 3-step process of constructing a building. Respondents' method utilizes the same 3 steps, thereby infringing petitioner's patent. Royer v. Coupe, 146 U. S. 524. Merely showing that one has achieved the same result is not enough to establish infringement. U.S. Rubber Co. v. General Tire and Rubber Co., 128 F. 2d 104 (C.C.A. Ohio 1942).

The test of infringement of a process patent is neither similarity of apparatus nor form; it is utilization of the same or substantially the same means. Beveridge Ice Marketers v. Bateman Foundry and Mach. Co., 93 Supp. 535 (D.C. Tex. 1950); B. B. Chemical Co. v. Ellis, 117 F. 2d 829 (C.C.A. Mass. 1941), affirmed 314 U.S. 495; Standard Patent Process Corp. v. Endicott Johnson Corp., 76 F. Supp. 703 (D.C. N. Y. 1948).

To be patentable, the process must have utility, novelty, and non-obviousness. 35 U.S.C. §§101-103. While utility is concededly present in respondent's method, novelty and non-obviousness seem to be lacking when viewed in light of the teachings of petitioner's patent. The substantial departure from the petitioner's process which respondents need to relieve themselves from a charge of infringement is clearly lacking. Darsyn Laboratories v. Lenox Laboratories, 120 F. Supp. 42 (D.C.N.J. 1954).

II. Petitioner's "cylindrical" and "substantially circular" core terminology encompasses respondents' "rectantular" cores if the former is viewed with respect to the definitions contained in the specifications.

Respondents argue that their rectangular cores do not infringe upon petitioner's patented "cylindrical" cores because the literal language of petitioner's claim #1 does not include use of the word "rectangular." However, respondents cannot avoid infringement merely by keeping their allegedly infringing process outside of the literal language of the claim of the patent. Cutter Laboratories v. Lyophile-Cryochem Corp., 179 F. 2d 80 (C.A. Cal. 1949).

As required by 35 U.S.C. §112, the patent in question contains specifications which describe petitioner's process claim. In regard to this area, 35 U.S.C. §112 states " ...such claim shall be construed to cover the corresponding structure, material or acts described in the specification and equivalents thereof."

When describing the nature of the "cylindrical" core in question, the patent specification states "a substantially circular central opening 23 is provided therethrough (the floors) and through which extends cylindrical core 11." That a "substantially circular" core includes a rectangular core is gleaned from the further language of the specification appearing in Appendix E, infra, p. E-1:

> "When the term "substantially circular" is used herein, it will be deemed to include not only a substantially exact circular shape, as the outer edge 21 and the central opening 23, but also other substantially circular shapes such as the outer edge 25 of the floor shown in FIG. 7, which is formed from a plurality of chords of a circle, and the opening 26 of this floor which is similarly formed. It will be understood that with an opening shaped as opening 26, the core used therewith should be correspondingly shaped.

As shown in Appendix E, infra, p. E-4, FIG. 7 is octagonally shaped.

The use of the word "chord" in the specification readily implies that a rectangular shape is also included in the scope of petitioner's "substantially circular" core. Webster's Third New International Dictionary, Unabridged, defines chord as "a straight line joining two points on a curve, specif: the segment of a secant between two points of its intersection with a curve." Thus, by drawing 4 chords within a circle, each parallel to one of the others and perpendicular to the remaining two, a rectangle may be formed. When a broken line is used, instead of a regular curve, for precisely the same purpose, one is the equivalent of the other. Ives v. Hamilton, 92 U.S. 426.

In this instance, respondents' rectangularly shaped core serves

the same purpose as does petitioner's substantially circular core.

III. Petitioner's single core process has merely been duplicated by respondents' twin core process with no change in method or result.

As previously stated, petitioner was required by the Patent Office to amend his claim to include the words "large single" core. This amendment was apparently necessary to satisfy the claims of German patent #833,566 (printed in Appendix D, infra, p. D-57). However, that German patent was for a multiplicity, or plurality, of small cores which were only large enough to enclose the hoisting devices. Petitioner's core, and respondents' core also, is large enough to enclose elevators and stairways and provide support for the whole building by itself. Therefore, it seems inequitable that petitioner was restricted to one core by the Patent Office, but respondents are allowed to use more than one core.

By using the "large single" language in the specification, petitioner has merely followed the direction of 35 U.S.C. §112 to "set forth the best mode contemplated by the inventor of carrying out his invention" (emphasis supplied). Respondents' twin core

method employs two identical large cores, centrally and symmetrically located, so as to each perform the same amount of lifting and supporting, that is, one-half of the total weight load. Petitioner feels that respondents' twin core method is, at best, an equivalent of the mode contemplated in petitioner's process patent.

Patent law has long held that where a device is the equivalent, mechanically speaking or otherwise, of the invention disclosed in a patent, infringement results despite verbal limitations within the patent claim itself. Winans v. Denmead, 15 How. (U.S.) 330; Clough v. Gilbert and B. Mfg. Co., 106 U.S. 166; Hoyt v. Horne, 145 U.S. 302. This "doctrine of equivalents" operates where the infringer's device performs substantially the same function in substantially the same way to accomplish substantially the same result as does the device of the patentee. Graver Tank and Mfg. Co., Inc. v. Linde Air Products Co., 339 U.S. 605.

In opposition, respondents urge that the doctrine of "file wrapper estoppel" curtails the doctrine of equivalents. As previously stated, petitioner's original patent application was rejected. Thereafter he amended his claim and was granted a patent. This file

wrapper history, say respondents, operates as a disclaimer upon the claims made in the original application which were rejected. Graham v. John Deere Co., 383 U.S. 1.

Petitioner argues that no such disclaimer has been made, that the specification definitions and respondents' mere duplication of petitioner's process operate to establish infringement of the patent in question. Not only is outright duplication prohibited, but also that more subtle duplication which is accomplished by a change in one of the noncritical aspects of the patent's teachings. Rich Products Corp. v. Mitchell Foods, Inc., 357 F. 2d 176 (C.A. 2N. Y.), cert. den. 385 U.S. 821.

If viewed as an alegbraic formula, petitioner's process would read

$$C + F + H = B$$

where C is the erection of a central Core, F is the construction of a Floor around that core, H is the Hoisting of that floor to its appropriate place on the core, and B is the Building constructed by the 3-step process just described. Respondents' process merely places a (2) before the C in the formula; that is, twin cores are used instead of a single core, but the process and result obtained

thereby remain the same.

Respondents' doubling of the first stage of petitioner's patent has produced neither a non-infringing new process nor a patentable combination of the elements of the patent in question. Combinations of previously existing inventions are to be strictly construed. Lektophone Corp. v. Rola Corp., 282 U.S. 168. To be patentable, a combination must, through distinctive character or function, produce a result which is not the mere adding together of separate contributions. Pickering v. McCullough, 104 U.S. 318; if the elements combined are the same so that each element performs the same function, infringement exists. Crescent Brewing Co. v. Gottfried, 128 U.S. 158. It is therefore submitted that respondents' twin cores perform the same function as does petitioner's single core.

IV. The grant of summary judgment in this patent infringement suit was unwarranted and drastic due to the presence of factual disputes as to non-infringement.

As previously stated, petitioner's patent was granted only after he amended his claim to conform with the Patent Examiner's interpretation of the prior art. Regardless of whether the Patent Examiner's decision was correct or incorrect, respondent argues that

file wrapper estoppel precludes petitioner from claiming infringement in this case. See Exhibit Supply Co. v. Ace Patents Corp., 315 U.S. 126. If this rationale was extended to its extreme, any patentee who had been compelled to amend his claim must of necessity acquiesce in the judgment of the Patent Office.

But the decisions of the Patent Office should not be afforded any sort of res judicata effect. Article 1, Section 8 of the Constitution guarantees every patentee an "exclusive right" regarding his patent. To determine to any degree what the rights of the patentee are even before he gets a judicial hearing would seem to be a denial of the Due Process Clause of the Fifth Amendment. The Patent Office has no jurisdiction over infringement; this is, of course, the prerogative of the federal courts. 28 U.S.C. §1338.

Thus, the District Court below should not have granted summary judgment where there was a factual dispute as to infringement. Summary judgment is generally considered a drastic remedy requiring strict compliance with the provision authorizing it. Parmelee v. Chicago Eye Shield Co., 157 F. 2d 582 (C.C.A. 8th Mo.). The summary judgment provision, Federal Rule of Civil Procedure 56, requires that there be "no genuine issue as to any

material fact and that the moving party be entitled to judgment as a matter of law."

In a patent infringement action of this nature, expert witnesses, not merely affidavits, are necessary to determine whether there is a factual dispute or not. For example, the obviousness or non-obviousness of respondents' twin core process against the background of petitioner's single core process patent needs to be determined. See Graham v. John Deere Co., 383 U.S. 1. The decision of the district judge to grant summary judgment as a matter of law despite the factual issues outstanding was unwarranted and inappropriate. As Fourth Circuit Judge Parker said in Stevens v. Johnson Co., 181 F. 2d 390, at 394," ... even questions of law arising in a case involving questions of fact can be more satisfactorily decided when the facts are fully before the Court than is possible upon pleadings and affidavits."

Conclusion

For the reasons set forth above, it is respectfully submitted that this petition for a writ of certiorari be granted.

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APPENDIX A

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF WEST VIRGINIA

CHARLESTON

R. LEE FRASER,

Plaintiff,

Vs. Civil Action No. 3003,

CONTINENTAL REALTY CORP., a corporation; CENTURY BUILDING CORPORATION, a corporation; INTERNATIONAL ENVIRONMENTAL DYNAMICS, INC., a corporation; CANN-THERMOHLEN ARCHITECTS: OAK RIDGE CONSTRUCTION COMPANY, a corporation; HEEDE INTERNATIONAL, INC.,

Defendants.

MEMORANDUM ORDER

This action was instituted on June 16, 1972. In response to plaintiff's claim, the defendant's filed their answer on July 18, 1972. On that same date, the defendants, Continental Realty Corp. and Oak Ridge Construction Company, filed a motion for summary judgment on the grounds that the plaintiff's patent is not infringed by the method of construction used for the accused structure, the Downtown Holiday Inn, currently under construction in Huntington, West Virginia. On August 24, 1972, the Court heard oral arguments of counsel, and the matter was then submitted to the Court on the record.

The facts, which are undisputed, may be summarized as follows: On July 12, 1966, the United States Patent Office issued Patent #3,206,028 (hereinafter called "Fraser Patent") to the plaintiff. Plaintiff's application for said patent had included several claims. As stipulated by the parties at the hearing on this motion, Claim 1 of the Fraser patent is the sole claim in issue. Claim 1 of the patent is from Claim 2 of the patent application, Serial No. 296,661, filed July 22, 1963. For the sole purpose of disposing of the motion now under consideration, the validity of said patent is assumed.

The Fraser patent embraces a method of constructing a building by use of a cylindrical core, constructed in an upstanding relationship to the supporting ground, and around which the floors are constructed at ground level and then hoisted into position by means of a hoist attached between the core and the floors. The description of the central core in the patent includes the language: "a central, substanitally large, single cylindrical core from the ground." The annular floors are described as having "central substantially circular openings through which said core extends."

Claim 2 of the patent application was originally rejected as being unpatentable over the method of German patent #833,556. The German patent was considered to include the same basic design

and the same active procedural steps, including construction of the floors adjacent to the ground. The said German patent, however, provided for a plurality of cores. Claim 2 of the patent application, the sole patent claim at issue in this suit, was then amended. The amendment inserted the phrase "Large, single" in the original description of Claim 2, so as to read "a central substantially large, single cylindrical core..." (inserted words underscored).

A second distinguishing factor between the German patent and the Fraser patent is the type of core. The German patent described a series of small cores, with an opening through the center for the sole purpose of providing passage for the hoisting cable. Each floor is lifted individually by simultaneously pulling the plurality of cables attached to the floor. The single core described in the Fraser patent is substantially large, with space for housing the elevators, stairs and various utility lines.

The accused structure, which plaintiff asserts has infringed his patent, is the new Downtown Holiday Inn currently under construction in Huntington, West Virginia. The defendant, Continental Realty Corp., is the owner-builder of the structure, and the defendant, Oak Ridge Construction Company, is the general contractor engaged in the construction of same. The accused structure has two cores, rectangular in shape and spaced apart. Each floor has two

rectangular openings, which openings exceed the dimensions of the tower in order to permit movement of the floor in relation to the tower during any dynamic application of force to the building, such as might occur during an earthquake. The floors are constructed at ground floor, and each floor contains beams which extend longitudinally the entire length of the building. The floors are hoisted into position by means of cables attached to the core.

The defendants premise their motion for summary judgment upon two grounds: (1) that plaintiff has by his patent limited himself to a core substantially circular in nature, whereas the cores of the accused structure are rectangular in shape and (2) that plaintiff has by his patent limited himself to the use of a single core, whereas defendants' accused structure utilizes two cores.

The Court is fully cognizant of the general rule that summary judgments should be employed with great caution, especially in patent cases. However, where it is apparent that there is no genuine issue of fact bearing on alleged infringment, and the design and mode of operation of the accused device are such that they may be readily comprehended by the Court and compared with the invention described and claimed in the patent, without the aid of technical explanation and elaboration from sources of special knowledge in the field, then the Court, should, if satisfied that there is no in-

fringment, award summary judgment for the defendant, rather than to subject the parties to the expense of a trial. Stiegleder v. Eberhard Faber Pencil Co., 176 F.2d 604 (1st Cir. 1949) cert. den. 338 U. S. 893.

The Court will direct its attention first to the defentant's claim that inasmuch as the cores of the accused structure are rectangular, they do not infringe upon plaintiff's patent since it describes the core as being circular. With the contention of defentants that, since the accused structure utilizes two rectangular cores rather than one cylindrical core, as described in the patent, there can be no infringement, the Court is inclined to agree. The Court, although aware of its limitations in the technical field involved here, does perceive certain basic differences in the methods employed in the accused building and the claims of the patent. They have to do with basic design and engineering techniques. To be considered, however, on this issue, is the "doctrine of equivalents." This principle of law has evolved to protect the patentee from devices which differ merely in name, form or shape, and thereby to prevent an unauthorized person from reaping the benefits of another's inventive genius. Laitram Corporation vs. Deepsouth Packing Co., 443 F. 2d 928 (5th Cir. 1971). The first case to espouse this doctrine was the case of Winans vs. Denmead, 15 How. 330, 14 L. Ed. 717.

The patent involved covered an improvement in railroad cars for carrying coal and called for a circular form. The accused car utilized an octagonal body and a pyramidal bottom. The Court concluded that infringement was made out on the facts therein. However, the statute under which Winans was decided was not as artfully drawn or as specific in its requirements as the present statute. The former statute used the term "claim" but the obligation was merely to "specify and point out" as distinguished from the requirement of the present statute (35 USC $112) of particularly pointing out and distinctly claiming the subject matter of the invention. Koykka, Infringement of Patents, 42 FRD 43. The obvious purpose of the amended statute was to require the patentee to set out his claim with as much clarity and exactness as the languate permits when procuring a patent, and thereby reduce the number of disputes giving rise to the doctrine and its application by the Courts. The principle continues to be applied, however, and the Supreme Court in Graver Tank and Mfg. Co., Inc. vs. Linde Aire Products Co., 339 U. S. 605 (1950), recognized the "doctrine of equivalents" in reciting that an equivalent "performs substantially the same way to obtain the same result." Just how far the "doctring of equivalents" may expand a patent claim is problematical at best. By its very nature it involves the intricacies of technical interpretations of the art at a given time, and of necessity

depends upon the facts of a particular case. This means that objectivity is difficult when the opinions of experts in a given field of endeavor are clothed in subjectivity. Cold, practical analysis on this issue in so many cases is next to impossible.

The doctrine is, of course, based upon sound reasoning and has been at times applied in the interest of equity and fairness. To permit imitation of a patented invention simply because every literal detail thereof is not copied would be to convert the protection of the patent grant into a hollow and useless thing, subordinating substance to form. Galston, The Patent in Court Infringement, 11 F.R.D. 319, pg. 326.

While in the instant case, it would appear that the cores in the building being constructed by defendants accomplish the same purpose as the method contemplated by the patent, and that there is utilized the same basic procedure, as set out in plaintiff's patent, yet there are differences in the utility of the structure used by defendant as compared to the expressed claim of the patent and also in the engineering techniques involved in each. And whether the Court should, if this were the only controlling issue involved, grant summary judgment without supplementing the record, presents a close question which this Court would resolve in favor of the defendants. However, resolution of the motion need not rest upon

this ground alone, for there is a more fundamental issue here involved, and one on which the law is clear and well settled. It is to this issue that the Court will now address itself.

The second ground advanced by defendants in support of their motion is that the patent is not infringed because the plaintiff limited himself to a "large, single" core by amendment of his Claim, and that inasmuch as the accused structure has two cores, plaintiff cannot complain. Defentant's argument is based upon the well known doctrine of "file wrapper estoppel."

Since the "doctrine of equivalents," if carried to the extreme, could undermine the entire patent system, it was necessary to find some balance between the "doctrine of equivalents" and the excessively formal alternative of holding the patentee to the exact wording of his claims. Laitram Corporation vs. Deepsouth Packing Co., supra. The file wrapper is the Patent Office's file of papers relating to the patent, and contains all the papers which ultimately led to the grant of the patent. Secret and confidential until the issuance of a patent, thereafter it is opened to the public. Under the doctrine of file wrapper estoppel, it is settled law that if, in order to obtain his patent, the inventor restricts what he has claimed, he is thereafter bound by that surrender. This may be readily ascertained by an examination of the file wrapper. Moreover, recourse

may not be had to the doctrine of equivalents to recapture that which has been surrendered by amendment. Exhibit Supply Co. vs. Ace Corp., 315 U. S. 126, reh. den. 315 U. S. 828. And, whether the examiners were right or wrong in their insistance on an amendment is immaterial. Having amended the claim to induce the granting of the patent, it may not thereafter be repudiated. Berry Brothers Corporation vs. Sigmon, 317 F. 2d 700 (4th Cir. 1963).

As hereinbefore indicated, Claim 2 of the application, which is Claim 1 of the Fraser patent, was originally rejected as unpatentable over the method of German patent #833,556. Claim 2 of the patent application was then amended by an amendment received in the Patent Office on November 23, 1964. This amendment inserted, among other words, the phrase "large, single" in the language "a central substantially large, single, cylindrical core..." Argument was then made for patentability because the claim was thereby made distinguishable from the German patent which purportedly did not disclose a single core for housing various parts of the building, nor did it include a method for supporting a plurality of floors from a single core. The German patent indicated a multiple of small cores, each housing only the hoisting cable. Upon the basis of the representation of the plaintiff, as contained in the amendment, he himself proposed, the protection afforded

Fraser by the patent in issue extends only to structures which utilize a single core. The accused structure, currently under construction, does not include a single core supporting the entire building. Rather, it contains two cores, spaced apart, and thereby non-centrally located and substantially large in size. The floors, as constructed, contain steel beams which run the entire length of the floor, necessitating the simultaneous lifting of each floor by each core.

It is readily apparent that the plaintiff limited structures utilizing his method of construction to single cores. Having done so, he cannot now complain of the use of a plurality of cores. Plaintiff's claim, as allowed, must be read and interpreted with reference to the rejected one, and to the state of the prior art, and that claim which has been narrowed in order to obtain issuance of a patent by distinguishing the prior art, cannot be sustained to cover that which was previously by limitation eliminated from the patent. Graham vs. John Deere Co., 383 U. S. 1. Accordingly, the Court is convinced that, as a matter of law, plaintiff cannot establish infringement for the reason that by his own action he has limited himself to structures which contain but one "large, single core," and that limitation is not present in the accused structure.

In accordance with the views hereinbefore expressed, defendants' motion will be sustained and judgment entered for

the defendants, and it is so ORDERED.

It is further ORDERED, with the consent of defendants, that the counterclaims of defendants relating to the invalidity of the subject patent are dismissed without prejudice to said defendants as to any action now pending or to be reinstituted in any proper form.

It is to be noted that motions are pending by the other defendants herein raising questions as to the jurisdiction of the Court as to them. In view of the action of the Court hereinbefore contained, however, these questions are rendered moot.

ENTER: _____

_____
UNITED STATES DISTRICT JUDGE

APPENDIX B

UNITED STATES COURT OF APPEALS
FOR THE FOURTH CIRCUIT

No. 72-2389

R. Lee Fraser, Appellant,

v.

Continental Realty Corp., a corporation, Century Building Corporation, a corporation, International Environmental Dynamics, Inc., a corporation, Cann Termohlen, Architects, Oak Ridge Construction Company, a corporation, and Heede International, Inc., Appellees.

Appeal from the United States District Court for the Southern District of West Virginia, at Huntington.
Dennis R. Knapp, District Judge.

Argued March 6, 1973 Decided March 21, 1973.

Before WINTER, RUSSELL, and WIDENER, Circuit Judges.

James W. St. Clair (Marshall and St. Clair on brief) for Appellant; William Michael Hynes (Townsend and Townsend on brief) for Appellees.

PER CURIAM:

After hearing oral argument, studying the briefs of counsel and examining the record, we find no error. We affirm on the opinion of the district judge. Fraser v. Continental Realty Corp., _____ F. Supp. _____ (S.D. W. Va. 1972).

AFFIRMED.

UNITED STATES COURT OF APPEALS
FOR THE FOURTH CIRCUIT

No. 72-2389

R. Lee Fraser, Appellant,

v.

Continental Realty Corp., a corporation,
Century Building Corporation, a corporation,
International Environmental Dynamics, Inc.,
a corporation, Cann Termohlen, Architects,
Oak Ridge Construction Company, a corporation,
and Heede International, Inc.,

Appellees.

ORDER

Appellant's pro se letter requesting modification of the decision of the panel having been treated by the panel as a petition for rehearing, and said letter having been read and considered, it is with the concurrence of Judge Russell and Judge Widener,

ORDERED that the petition for rehearing be, and it is hereby, denied.

For the Court:
(Signed) Harrison L. Winter
United States Circuit Judge

APPENDIX C

Pertinent Portions of the Statutes and Rule Involved

A. Statutes - Title 35 U.S.C.:

§100. Definitions.

When used in this title unless the context otherwise indicates -...

(b) The term "porcess" means process, art or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material.

§101. Inventions Patentable.

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

§102. Conditions for Patentability; Novelty and Loss of Right to Patent.

A person shall be entitled to a patent unless -

(a) The invention was known or used by others in this country. or patented or described in a printed publication in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent or ...

(e) The invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or

(f) He did not himself invent the subject matter sought to be patented or ...

§103. Conditions for Patentability; Non-obvious Subject Matter.

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains ...

§112. Specifications.

The specifications shall contain written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best made contemplated by the inventor of carrying out his invention.

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention. A claim may be written in independent or dependent form, and if in dependent form, it shall be construed to include all the limitations of the claim incorporated by reference into the the dependent claim.

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

§271. Infringement of Patent.

(a) Except as otherwise provided in this title, whoever without authority makes, uses, or sells any patented invention, within the United States during the term of the patent thereof, infringes the patent.

(b) Whoever actively induces infringement of a patent shall be liable as an infringer.

(c) Whoever sells a component of a patented machine, manufacture, combination or composition, or a material or

apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.

(d) No patent otherwise entitled to relief for infringement or contributory infringement of a patent shall be denied relief or deemed guilty of misuse or illegal extension of the patent right by reason of his having done one or more of the following: ... 3) sought to enforce his patent rights against infringement or contributory infringement.

§281. Remedy for Infringement of Patent.

A patentee shall have remedy by civil action for infringement of his patent.

B. Rule - Rule 56, Federal Rules of Civil Procedure:

Summary Judgment.

... (b) For Defending Party. A party against whom a claim, counterclaim, or cross-claim is asserted or a declaratory judgment is sought may, at any time, move with or without supporting affidavits for a summary judgment in his favor as to all or any part thereof.

(c) Motion and Proceedings Thereon. ... The adverse party prior to the day of hearing may serve opposing affidavits. The judgment sought shall be rendered forthwith if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law. ...

(e) Form of Affidavits; Further Testimony; Defense Required. Supporting and opposing affidavits shall be made on personal knowledge, shall set forth such facts as would be admissible in evidence, and shall show affirmatively that the affiant is competent to testify to the matters stated therein. Sworn or certified copies of all papers or parts thereof referred to in an affidavit shall be attached thereto or served therewith. The court may permit affidavits to be supplemented or opposed by depositions, answers to interrogatories, or further affidavits. When a motion for summary judgment is made and supported as provided in this rule, an adverse party may not rest upon the mere allegations or denials of his pleading, but his response, by affidavits or as otherwise provided in this rule, must set forth specific facts showing that there is a genuine

issue for trial. If he does not so respond, summary judgment, if appropriate, shall be entered against him. ...

Appendix D

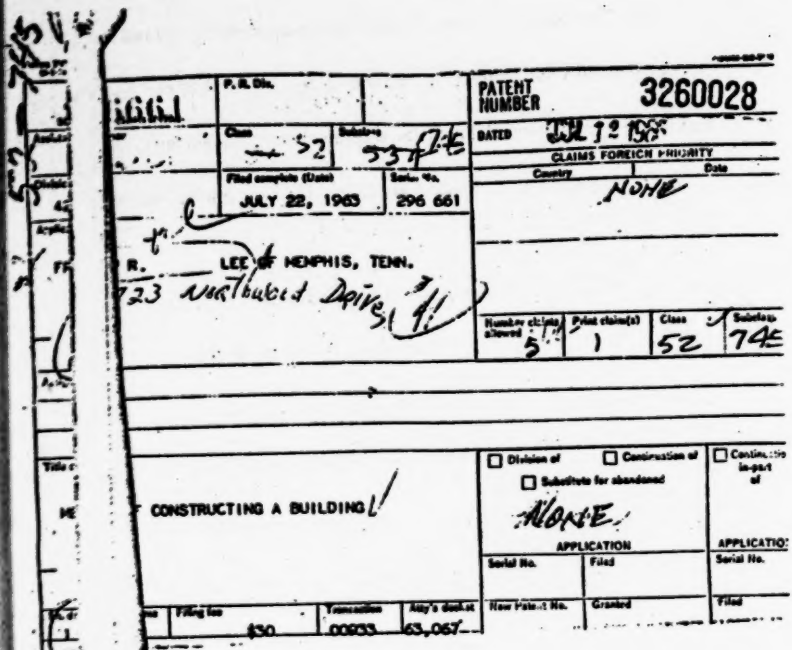
Pertinent Portions of the

File Wrapper History of

Petitioner's Patent Application

Serial #296,661

Filed July 22, 1963



PATENT NUMBER 3260028

DATED JUL 12 1966

CLAIMS FOREIGN PRIORITY

Country: NONE Date:

P. R. Div.

Class 52 Subclass 74E

Filed complete (Date) JULY 22, 1963 Ser. No. 296 661

R. LEE OF MEMPHIS, TENN.

123 Northwood Drive

Number claims allowed 5 Print claim(s) 1 Class 52 Subclass 74E

CONSTRUCTING A BUILDING

Division of Continuation of Substitute for abandoned NONE

APPLICATION Serial No. Filed

Filing fee $30 Transaction 00633 Atty's docket 63,067

New Patent No. Granted

This is to certify that annexed hereto is a true copy from the records of the United States Patent Office of File Wrapper and Contents of the file identified above.

By authority of the COMMISSIONER OF PATENTS

Certifying Officer

PATENT NUMBER 3260028

DATED JUL 12 196[illegible]

CLAIMS FOREIGN PRIORITY

Country: NONE Date:

Class 52 Subclass 534*

Filed complete (Date) JULY 22, 1963 Serial No. 296 661

Atty's Docket No. 420

FRASER, R. LEE of MEMPHIS, TENN.

3723 Highland Drive, 4*

(1)

Class 52 Subclass 745

Number of Claims allowed 5 Print claim(s) 1

METHOD OF CONSTRUCTING A BUILDING

☐ Division of ☐ Continuation of ☐ Substitute for abandoned NONE

APPLICATION(S)

Serial No. Filed

Continuation-in-part of

APPLICATION

Serial No. Filed

Fees: Check No. Amount $30 Deposit Account No. 00933 Atty's Docket No. 63,067

AUTHORIZATION TO CHARGE DEPOSIT ACCOUNTS FOR CITED REFERENCES

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JOHN R. WALKER, III

COMMERCE TITLE BLDG.

MEMPHIS 3, TENN.

Form PO-436 (6-64) U.S. DEPT. OF COMM. PATENT OFFICE

Assignee's name and address: JOHN R. WALKER, III

901-534-5411

901-527-5413

PAPERS OF APPLICATION FILED SIMULTANEOUSLY

PREPARED FOR ISSUE

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EXAMINER ASSIGNED TO ART UNIT

FEB 28 1966

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Date mailed

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D-2

296661

R. Lee Fraser

File No. 63,067

IN THE UNITED STATES PATENT OFFICE

APPLICATION FOR PATENT

PETITION AND POWER OF ATTORNEY

TO THE COMMISSIONER OF PATENTS:

Your petitioner, R. Lee Fraser, a citizen of the United States and a resident of the City of Memphis, County of Shelby, State of Tennessee, whose post office address is 3723 Northwood Drive, Memphis, Tennessee, prays that Letters Patent may be granted to him for the improvement in

METHOD OF CONSTRUCTING A BUILDING

set forth in the following specification. Your petitioner appoints:

John R. Walker, III
Commerce Title Building
Memphis 3, Tennessee
Registration No. 17,769

his attorney, to prosecute this application and to transact all business in the Patent Office connected therewith.

R. Lee Fraser

File No. 63,067

SPECIFICATION

METHOD OF CONSTRUCTING A BUILDING

This invention relates to a method of constructing a building.

One of the objects of the present invention is to provide a unique and simple method of constructing a building.

A further object is to provide such a method which can be accomplished with greater speed than was heretofore possible with the usual and known methods of erecting a building.

A further object is to provide a method of constructing a building wherein a major part of the construction steps are repetitive so that economy can be achieved.

A further object is to provide such a method which results in a unique and conveniently arranged building.

A further object is to provide such a method which results in a building having more usable floor space as compared with conventional buildings.

A further object is to provide such a method in which the major part of the construction is done adjacent the ground, thereby eliminating the necessity for tall booms, etc. to move the building materials, such as concrete.

A further object is to provide a unique method of forming the floors.

A further object is to provide a method of constructing a building with hoisting equipment comprising the steps of constructing a central core in upstanding relationship from the supporting

ground, constructing adjacent the ground a plurality of floors respectively having central openings through which said core extends; and by the use of said hoisting equipment respectively attached between said floors and said core and by the use of said core as a support from the ground, hoisting said floors successively to position said floors in vertically spaced relationship and with the upper one being hoisted first to a position adjacent the top of said core and then on down to the bottom one to a position adjacent the bottom of said core.

A further object is to provide a unique method for expanding a building.

A further object is generally to improve the design and construction of buildings.

The means by which the foregoing and other objects of the present invention are accomplished and the manner of their accomplishment will be readily understood from the following specification upon reference to the accompanying drawings, in which:

Fig. 1 is a sectional view taken as on the line I-I of Fig. 2 and showing the hoisting equipment used in connection with the method of the present invention.

Fig. 2 is a top plan view of a partially completed building in which the method of the present invention has been used.

Fig. 3 is a fragmentary sectional view on an enlarged scale taken as on the line III-III of Fig. 2.

Fig. 4 is a diagrammatic view on a reduced scale showing one step in the method of the present invention.

Fig. 5 is a view similar to Fig. 3 showing a floor constructed by an alternate method.

Fig. 6 is a view similar to Figs. 3 and 5 of another alternate method of forming the floor.

Fig. 7 is a diagrammatic plan view of still another alternate floor.

Referring now to the drawings in which the various parts are indicated by reference characters, the first step in carrying out the method of the present invention is to erect a cylindrical core 11, which, when the building is constructed in a manner later to be described, becomes the central portion of the building. Cylindrical core 11 is preferably hollow to provide a central shaft 13, which, in the completed building, is adapted to receive such equipment as desired, for example, elevators, stairways, and other means, not shown, to provide access to the completed building. Core 11 is preferably formed of concrete and preferably, though not necessarily, is erected by conventional slip form methods. In other words, an annular form, not shown, is provided, and the concrete is substantially continuously poured from the bottom of core 11 towards the top thereof. In the completed form, cylindrical core 11 extends vertically upwardly in upstanding relationship from the supporting ground G. Suitable foundations, not shown, for the core 11 are preferably provided, as, for example, by extending the core downwardly into the ground G for a suitable distance. A cap 15 having a central opening 17 for a purpose later to be described, is preferably provided on the top of core 11, as best seen in Figs. 1 and 2.

Having constructed core 11, as above described, the next step in the method of the present invention is to construct adjacent the ground G a plurality of floors 19, which are stacked one on top of another with the lowermost one 19a being preferably supported from ground G and the others being supported thereon. For purposes of clarity, the floors have been designated 19a, 19b, etc. from the ground upwardly. In the drawings, five floors 19

have been shown, with the uppermost one being 19g, although other numbers of floors can be provided without departing from the spirit and scope of the present invention. It should be noted that the floors 19 are individually constructed and are preferably of concrete. The floors 19 are formed by any suitable well-known means, such as providing forms, not shown, in which concrete is poured and providing suitable removable separating members, not shown, between the floors. Floors 19 are concentric with core 11 and respectively surround the core. It will be understood that although the floors 19 are shown in the drawing as being stacked, if desired, the floors can be formed or assembled one at a time and then hoisted before the next one is formed or assembled. Each of the floors 19 is preferably annular in shape; that is, the outer peripheral edge 21 thereof is substantially circular, and a substantially circular central opening 23 is provided therethrough and through which extends cylindrical core 11. Each of the openings 23 is slightly larger than the outside surface 24 of cylindrical core 11 so that each floor 19 is vertically movable relative to the core 11. Fig. 4 shows the partly finished building after this step has been completed, that is, after the floors 19 have been constructed adjacent the ground G in surrounding relationship to core 11. When the term "substantially circular" is used herein, it will be deemed to include not only a substantially exact circular shape, as the outer edge 21 and the central opening 23, but also other substantially circular shapes such as the outer edge 25 of the floor shown in Fig. 7, which is formed from a plurality of chords of a circle, and the opening 26 of this same floor which is similarly formed. It will be understood that with an opening shaped as opening 26, the core used therewith should be correspondingly shaped.

Continuing with the description of the method of the present invention, in the next step, by using suitable hoisting equipment 27 and by the use of core 11 as the support from the ground G, the floors 19 are hoisted from the positions shown in Fig. 4 to the positions shown in Fig. 1, wherein it will be seen the floors 19a-19e are vertically spaced. Also, it should be noted that the term "floors" is loosely used since, when in position, the floors also may act as a ceiling for the floor therebelow, and the uppermost floor 19e preferably becomes the roof of the building, although it can become the floor of an attic if it is desired to build one above the floor 19e. Once the floors 19 are in place, they are secured by suitable means, as, for example, by blocks such as the block 29 shown in Fig. 3 upon which the floor 19 rests and which block is fixedly attached to core 11 by suitable means, as fastening member 31.

The hoisting equipment 27 for hoisting the floors 19, as above described, is of any suitable construction and preferably as shown in Figs. 1, 2 and 4 wherein it will be seen a plurality of hoisting cables 33 are fixedly attached to the floor 19 being hoisted at places adjacent central opening 23 and respectively extend upwardly over pairs of pulleys 35, 37 which are supported from cap 15, and then the hoisting cables extend downwardly through opening 17 to their place of attachment with a pulley 39. In Fig. 1, the hoisting cables 33 are shown attached to the lowermost floor 19a and extend upwardly through notches 41 provided in the other floors 19 adjacent central openings 23. In addition, hoisting equipment 27 preferably includes another cable 43 which is anchored at the end thereof as at 45 by suitable means and which leads upwardly through pulley 39, downwardly through a pulley 47 anchored in a trough T provided in ground G beneath core

11 and extending outwardly therefrom, horizontally through trough T, through another pulley 49 in trough T, and finally to a winch 51. It will be understood that as winch 51 is turned, the cable 43 will cause downward pull on pulley 39 which, in turn, will cause hoisting cables 33 to pull upwardly on the floor to which attached. The floors 19 are lifted successively with the topmost one, that is, 19e, being lifted first and so on down by first attaching the ends of the hoisting cables 33 to the floor 19e, lifting it into place adjacent the upper end of core 11, then securing it, detaching the cables 33 from floor 19e, attaching them to floor 19d, and so on until the lowermost floor 19a is put into place. After the floors 19 have been put into the positions as above described, the building can then be finished by suitable conventional means, as, for example, by providing petitions, outside walls, etc. in the desired manner.

An alternate method of constructing the floor is shown in Fig. 5 wherein a portion of one of the floors 52 is shown. For this alternate method, an annular hub section 53 is constructed around core 11. A plurality of spoke members 55 are attached to hub section 53 in spaced apart relationship. The spoke members 55 extend radially outwardly from the hub section and are angled upwardly therefrom to their places of termination at distal ends remote from hub section 53 in much the same manner as spokes in a bicycle wheel. An outer ring 57 concentric with hub section 53 is attached to spoke members 55 adjacent the distal ends thereof. Hub section 53, spoke members 55, and outer ring 57 are preferably, though not necessarily, integrally formed of concrete. Next, a tensile band 59 is placed around outer ring 57 to give structural strength to the floor 52. An inner ring 61 is preferably provided around core 11 above hub section 53 and is held in spaced relation-

ship thereto by means of rigid spacing means such as members 63. A plurality of angularly spaced and radially extending tensile members 65 are provided interconnecting inner ring 61 and outer ring 57. It should be noted that inner ring 61 and hub section 53 are larger than the outside diameter of core 11 so that the floor 52 can be hoisted in place as heretofore described for floor 19. Also, it should be noted that the actual finished floor construction and ceiling construction can be provided in any desired manner in connection with the floor 52. In other words, the floor per se can be provided on top of tensile members 65, and the ceiling therebelow can be provided adjacent spoke members 55.

Another method of forming the floors is shown in Fig. 6 wherein a portion of one of the floors 67 is shown. In constructing floor 67, a hub section 69 is provided around core 11 in a similar manner to hub section 53. A solid inverted cone-shaped member 71 is erected in attached relationship around hub section 69 and extends upwardly and outwardly therefrom to the outer peripheral edge of the cone-shaped member. An outer ring 73 similar to outer ring 57 is attached to cone-shaped member 71 adjacent the peripheral edge thereof. Hub section 69, cone-shaped member 71, and outer ring 73 are preferably, though not necessarily, integrally constructed of concrete. Also, a tensile band 75 similar to tensile band 59 is provided around outer ring 73.

If it is desired to expand the building heretofore described, or if it is desired to provide additional space outwardly of the previously described floors in the initial construction, the following additional steps can be taken:

A plurality of vertically stacked annular outer floors 77 are constructed adjacent the ground G and supported therefrom in the same manner as heretofore described relative to floors 19.

If desired, floors 77 can be formed or assembled one at a time and then hoisted before the next one is formed or assembled. Each of outer floors 77 is concentric with core 11 and floors 19. Also, each of the outer floors 77 has a central substantially circular opening 79 through which extend the other portions of the building, that is, the core 11 and the portions supported thereby. In addition, each of the central openings 79 is larger than the outer periphery of floors 19 or the outer periphery of the building if outer walls have been constructed. Next, outer floors 77 are hoisted into position in vertically spaced relationship in much the same manner as the floors 19. For example, in Figs. 1, 2 and 3, the outer floors 77 are shown in the hoisted position respectively at the same levels with the corresponding floors 19, which now become the inner floors. The same nomenclature has been used relative to the outer floors as with the inner floors, that is, the lowermost one is designated 77a, the next one 77b, etc. It will be understood that substantially the same hoisting equipment 27 can be used to hoist the outer floors, with the hoisting cables 33 being successively attached to the outer floors 77 in the manner heretofore described relative to the inner floors 19, but it will be understood that additional pulleys 81 should be provided adjacent the outer edge 21 of the upper floor 19e to guide the cables 33 around the upper floor 19e. Additionally, it will be understood that notches 83 similar to notches 41 are provided in outer floors 77 adjacent central opening 79 to make room for the hoisting cables 33. After the outer floors 77 are hoisted into place, they may be secured by suitable means as the upper and lower plates 85, 87 connected by fastening means 89, as best seen in Fig. 3. Also, the cables 33 are preferably replaced by columns and/or tensile members interposed between the outer floors 77. In

I claim:

1: The method of constructing a building with hoisting equipment comprising the steps of constructing a central core in upstanding relationship from the supporting ground, constructing adjacent the ground a plurality of floors respectively having central openings through which said core extends; and by the use of said hoisting equipment respectively attached between said floors and said core and by the use of said core as the support from the ground, hoisting said floors successively to position said floors in vertically spaced relationship and with the upper one being hoisted first to a position adjacent the top of said core and then on down to the bottom one to a position adjacent the bottom of said core.

24. The method of constructing a building with hoisting equipment comprising the steps of constructing a central substantially cylindrical core in upstanding relationship from the supporting ground, constructing adjacent the ground and supported therefrom a plurality of substantially annular floors respectively having central substantially circular openings through which said core extends, constructing tensile bands respectively around said floors; by the use of said hoisting equipment respectively attached between said floors and said core and by the use of said core as the support from the ground, hoisting said floors successively to position said floors in vertically spaced relationship and with the upper one being hoisted first to a position adjacent the top of said core and then on down to the bottom one to a position adjacent the bottom of said core.

34. In a method of constructing a building with hoisting equipment comprising the steps of constructing a central cylindrical core in upstanding relationship from the supporting ground, constructing adjacent the ground and supported therefrom a plurality of substantially annular inner floors respectively having central substantially circular openings through which said core extends; by the use of said hoisting equipment respectively attached between said inner floors and said core and by the use of said core as the support from the ground, hoisting said inner floors successively to position said inner floors in vertically spaced relationship and with the upper one being hoisted first to a position adjacent the top of said core and then on down to the bottom one to a position adjacent the bottom of said core; constructing adjacent the ground and supported therefrom a plurality of outer floors respectively having central substantially circular openings through which said core extends and which are larger than the outer periphery of said inner floors; and by the use of said hoisting equipment respectively attached between said outer floors and said core and by the use of said core as the support from the ground, hoisting said outer floors successively to position said outer floors in vertically spaced relationship around at least some of said inner floors.

41. In a method of constructing a building with hoisting equipment comprising the steps of constructing a central cylindrical core in upstanding relationship from the supporting ground, constructing adjacent the ground and supported therefrom a plurality of vertically stacked substantially annular inner floors respectively having central substantially circular openings through which said core extends, constructing tensile bands respectively around said inner floors; by the use of said hoisting equipment respectively attached between said inner floors and said core and by the use of said core as the support from the ground, hoisting said inner floors successively to position said inner floors in vertically spaced relationship and with the upper one being hoisted first to a position adjacent the top of said core and then on down to the bottom one to a position adjacent the bottom of said core; constructing adjacent the ground and supported therefrom a plurality of vertically stacked outer floors respectively having central substantially circular openings through which said core extends and which are larger than the outer periphery of said inner floors; and by the use of said hoisting equipment respectively attached between said outer floors and said core and by the use of said core as the support from the ground, hoisting said outer floors successively to position said outer floors in vertically spaced relationship around at least some of said inner floors.

5: The method of claim 1 in which the method of constructing at least one of said floors comprises the steps of constructing a hub section around said core, erecting a plurality of spoke members attached to said hub section and extending radially outwardly and angled upwardly therefrom to their places of termination at distal ends remote from said core, constructing an outer ring attached to said spoke members adjacent the distal ends thereof, constructing an inner ring above said hub section, constructing rigid spacing means between said inner ring and said hub section to keep said inner ring and said hub section apart, and constructing at least one tensile member between said inner ring and said outer ring.

6: The method of claim 1 in which the method of constructing at least one of said floors comprises the steps of constructing a hub section around said core, erecting a solid inverted cone-shaped member in attached relationship around said hub section and extending outwardly and upwardly therefrom to its outer peripheral edge, and constructing an outer ring attached to said cone-shaped member adjacent the peripheral edge thereof.

74. The method of claim 4 in which the method of constructing at least one of said inner floors comprises the steps of constructing a hub section around said core, erecting a plurality of spoke members attached to said hub section and extending radially outwardly and angled upwardly therefrom to their places of termination at distal ends remote from said core, constructing an outer ring attached to said spoke members adjacent the distal ends thereof, constructing a tensile band around said outer ring, constructing an inner ring above said hub section, constructing rigid spacing means between said inner ring and said hub section to keep said inner ring and said hub section apart, and constructing at least one tensile member between said inner ring and said outer ring.

5. The method of claim 3 in which the method of constructing at least one of said inner floors comprises the steps of constructing a hub section around said core, erecting a solid inverted cone-shaped member in attached relationship around said hub section and extending outwardly and upwardly therefrom to its outer peripheral edge, constructing an outer ring attached to said cone-shaped member adjacent the peripheral edge thereof, and constructing a tensile band around said outer ring.

9: The method of expanding a substantially circular building portion with hoisting equipment comprising the steps of constructing adjacent the ground and supported therefrom a plurality of outer floors respectively having central substantially circular openings through which said building portion extends and which are larger than said building portion; and by the use of said hoisting equipment respectively attached between said outer floors and said building portion and by the use of said building portion as the support from the ground, hoisting said outer floors to position said outer floors in vertically spaced relationship around said building portion.

63,007

OATH

R. LEE FRASER, the above-named petitioner, being sworn, deposes and says that he is a citizen of the United States and a resident of the City of Memphis, County of Shelby, State of Tennessee; that he verily believes himself to be the original, first and sole inventor of the improvement in METHOD OF CONSTRUCTING A BUILDING described and claimed in the foregoing specification; that he does not know and does not believe that the same was ever known or used before his invention thereof, or patented or described in any printed publication in any country before his invention thereof, or more than one year prior to this application, or in public use or on sale in the United States more than one year prior to this application; that said invention has not been patented in any country foreign to the United States on an application filed by him or his legal representatives or assigns more than twelve months prior to this application; and that no application for patent on said invention has been filed by him or his representatives or assigns in any country foreign to the United States.

R. Lee Fraser

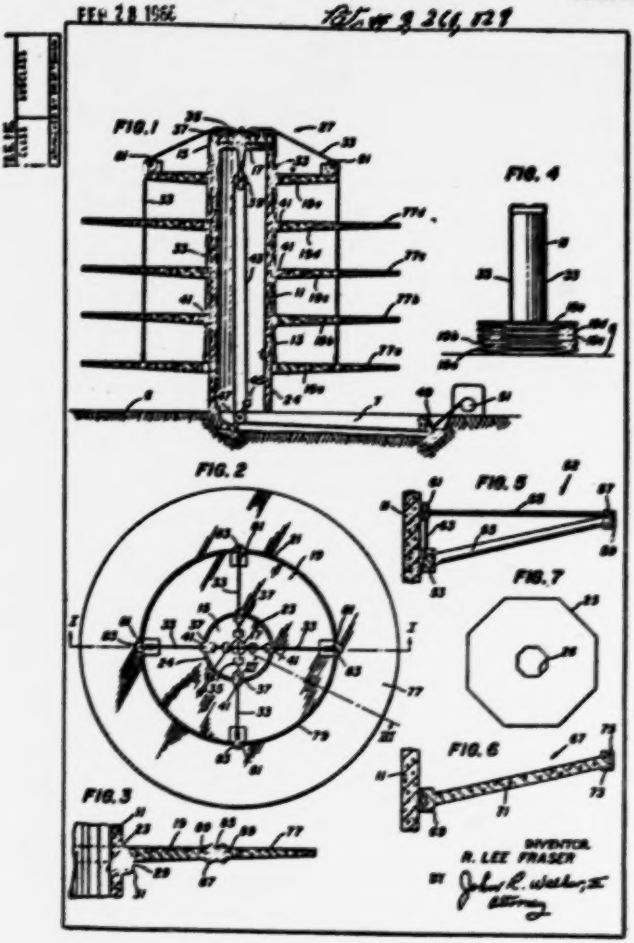
STATE OF TENNESSEE,)
COUNTY OF SHELBY.)

SWORN TO AND SUBSCRIBED before me on this 19 day of July, 1963.

NOTARY PUBLIC

My commission expires:
Nov. 4, 1964

FEB 28 1966



Form No. 3

U. S. DEPARTMENT OF COMMERCE
PATENT OFFICE
WASHINGTON

In Reply Please Refer To: Group 420

John R. Walker, III
Commerce Title Bldg.
Memphis 3, Tenn.

Applicant: R Lee Fraser
Ser. No. 296,661
Filed July 22, 1963
For METHOD OF CONSTRUCTING A BUILDING

MAILED
OCT 29 1964
GROUP 420

Please find below a communication from the EXAMINER in charge of this application.

Commissioner of Patents.

This application has been examined.

Art cited:

Feier	992,739	May 16, 1911	50-437
Walker et al.	2,359,750	Sept. 19, 1944	50-437
Ciarlini	2,618,146	Nov. 18, 1952	50-140
Youtz	2,467,111	Jan. 6, 1949	50-80
British patent (2 sht. dwg.; 3 pp. spec.)	630,696	Oct. 19, 1949	50-49
German patent (1 sht. dwg.; 3 pp. spec.)	857,443	Dec. 1, 1952	50-534
German patent (2 sht. dwg. 3 pp. spec.)	833,556	Mar. 14, 1952	50-534

On allowance of any claim revision as to form may be required.

The application is considered informal in that the first full name of the inventor is not given. Applicant is required to make an amendment over his own signature supplying his full first name, see Section 605.04 (b) M.P.E.P.

The claims are 1 thru 9.

Claims 1, 2, and 9 are rejected as unpatentable over the method of German '556 who is considered to show the active procedural steps of these claims including constructing floors adjacent the ground, see Ex parte Ehrasch, 39 U.S.P.Q. 123.

Claim 3 is rejected as unpatentable over the method

of German '443 or German '556 in view of Ciarlini. Whether the German '443 or German '556 methods incorporate the steps of constructing and hoisting inner and outer floor elements as taught by Ciarlini is an obvious matter of dividing into parts what was formerly one part, see Wagner Vs Meegana, 1918 C.D. 231.

Claims 4 thru 8 are rejected as unpatentable over the art and reasons applied against the method of claim 3 when considering British '696 or Walker et al. Whether the method of either German patent has incorporated therein the steps of constructing inverted cone shaped slabs with radial tensile bands as taught by British '696 or Walker is a matter of choice of procedural expedients shown in the prior art.

Meier and Youtz are cited to further show tension rings or the equivalent in an arrangement similar to applicant's.

Summary: Claims 1 thru 9 have been rejected. No claim has been allowed.

JLR
JLRidgilligh
TD. 7-2533

W. Scott Cook
Examiner

2090

IN THE UNITED STATES PATENT OFFICE

Received
NOV 25 1964

Applicant: R. Lee Fraser
Serial No.: 296,661
Filed: July 22, 1963
For: METHOD OF CONSTRUCTING A BUILDING
Group 420
Amendment A.

TO THE COMMISSIONER OF PATENTS:

In response to the Office letter of July 29, 1964, please amend as follows:

Claim 1, line 2, before "central" insert -- substantially large single --. Line 3, after "ground" insert -- and with said core having access means to the interior of the building --. Line 12, before the period insert -- and with the positioning of said floors being such that the distances between adjacent floors are less than the cross-sectional distance of said core --.

Claim 2, line 2, after "equipment" insert --, including a plurality of hoisting members, said method --. Line 3, before "cylindrical" insert -- large single --. Line 4, after "ground" insert -- and with said core having access means to the interior of the building --. Line 10, after "ground" insert -- and said plurality of hoisting members attached to each floor --. Line 14, before the period insert -- and with the positioning of said floors being such that the distances between adjacent floors are less than the diameter of said cylindrical core --.

Claim 3, line 2, after "equipment" insert --, including a plurality of hoisting members, said method --. Line 3, after "ground" insert --, and with said core having access means to the interior of the building --. Line 9, after "ground" insert -- and said plurality of hoisting members attached to each floor -- Line 13, after

"core" insert --, and with the positioning of said floors being such that the distances between adjacent floors are less than the diameter of said cylindrical core--.

Claim 4, line 2, after "equipment" insert --, including a plurality of hoisting members, said method--. Line 3, after "ground" insert --, and with said core having access means to the interior of the building--. Line 10, after "ground" insert --, and said plurality of hoisting members attached to each floor--. Line 14, after "core" insert --, and with the positioning of said floors being such that the distances between adjacent floors are less than the diameter of said cylindrical core--.

Claim 9, line 2, after "portion" insert -- having a plurality of inner floors --.

REMARKS

The Examiner considered the application informal regarding the name of the inventor. However, it is respectfully submitted that applicant's full name is, in fact, "R. Lee Fraser", and a signed statement by the inventor to that effect is enclosed herewith.

Claims 1, 2 and 9 were rejected by the Examiner as being unpatentable over the method of the German patent '556, and claim 3 was rejected as being unpatentable over the method of the German patent '443 or '556, in view of Ciarlini. The Examiner further stated, relative to claim 3, that whether the German '443 or German '556 methods incorporate the steps of constructing and hoisting inner and outer floor elements, as taught by Ciarlini, is an obvious matter of dividing into parts that which was formerly one part.

Since the two German patents and the Ciarlini patent are perhaps the primary reference patents in this case, these patents will be briefly reviewed as they are understood by applicant.

The German patent '556 apparently is directed mainly

towards the construction of large buildings and buildings having a substantially broad base area. A plurality of tubular supporting columns 5 are erected in the foundation of the building. A plurality of floors or horizontal building parts are formed on the foundation or ground and around the respective bases of the plurality of columns. A plurality of lifting cables, one cable for each column, are threaded up through the columns and down to the top one of the plurality of stacked floors on the ground. Each floor is lifted individually by simultaneously pulling the plurality of cables attached to the floor.

The German patent '443 is not a method of construction patent, but concerns a building structure. The principal feature of this patent appears to be that feature whereby the walls of a multi-floor building may be supported or hung at each floor. In the building structure of patent '443, the space enclosing walls are not intended to support any other parts of the building. There appear to be two principal embodiments of the invention: (1) That embodiment whereby the building is supported on a single pillar, as shown in Figs. 2 and 3; and (2) that embodiment having two supporting pillars, as shown in Fig. 1. The embodiment employing a single supporting pillar is provided with a pointed or steeple-type roof. The embodiment having two pillars is provided with a gable-type roof. Cables or ropes support the respective floors from the pillars of both embodiments, and these cable members are apart of the building structure.

The patent to Ciarlini concerns the supporting framework of a building, and particularly concerns the erection of pre-fabricated concrete columns, brackets, beams, and the like to provide a reinforced concrete building framework. Basically, the Ciarlini structure includes a plurality of columns 1, brackets 3 spaced at floor

levels along columns 1, and beams 4 disposed between the respective columns 1 and bridging the respective brackets 3.

It is respectfully submitted that the method of constructing a building as described by applicant is not shown or suggested by the references. Several important features of applicant's building method have not been disclosed in the German patents or the patent to Ciarlini. An important feature of applicant's method is the providing of additional outer floors to an already existing multi-floor building. A further important feature of applicant's method is the erection of a substantially large central core, and with the core having means for housing the elevators, stairs, and various utility lines. A further feature is the erection of a core having means for access into the various floors of the building. A further feature, in the hoisting of the floors of applicant's structure, is the provision of a plurality of hoisting members attached to each floor, and such members as to support the respective floors in a horizontal disposition as they are raised. The features of applicant's method, as recited above, are not thought to be found in the references. None of the references suggest the erection of a large central core having access means to the building. The column of German patent '556 is substantially small and has only an opening through the center large enough for the passage of the erection cable 13. German patent '556 does not appear to suggest the provision of a centrally disposed large core member, or such a member as would house various parts of the finished building. The column or columns of German patent '443 appear to be solid and substantially small-diametered. No thought was given in this patent for the provision of a central column or the erection of such a column, as is disclosed by applicant.

Referring now specifically to the claims of the application,

claim 1 has been amended to additionally define the step of constructing the central core of applicant's building as including access means to the interior of the building. The hoisting step of applicant's claim 1 has further been amended to define the floors as being raised to such a distance that the distances between adjacent floors are less than the cross-sectional distance of the central core. Such amendments are thought to distinguish applicant's method fairly from the references, and claim 1 is now believed to be allowable. Claim 1 is thought to distinguish from German patent '556 since this German patent does not disclose a single core for housing various parts of the building, nor does it include a method for supporting a plurality of floors from a single core.

Claim 2 has been amended in a manner similar to claim 1 and, for the same reasons given relative to claim 1, distinguishes fairly from the references. Claim 2 additionally defines a plurality of hoisting members attachable to each floor for hoisting the respective floors successively to their proper positions. Additionally, claim 2 recites the step of constructing tensil bands around the respective floors. The plurality of hoisting members 33 used in applicant's floor hoisting step makes possible the level lifting of the respective floors from the single central core. The steps of applicant's method in claim 2 are not thought to be found in German patent '556, and this claim is thought to distinguish fairly from the reference and to be allowable. Thus, the German patent '556 teaches the use of a plurality of columns for lifting each floor with a single cable for each column, as opposed to the use of the plurality of hoisting members for hoisting from the single enlarged core of applicant's method. By the use of applicant's method, a much improved and more economical procedure is provided.

Claim 9, rejected on German patent '556, includes the

steps of applicant's method for expanding an existing circular building. Claim 9 has been amended to include a plurality of inner floors in the building portion to be enlarged. It is believed that German patent '556 does not suggest the enlarging of an existing building by constructing and hoisting floors around the outside of the building. Therefore, claim 9 is thought to distinguish fairly from the reference patent and to be allowable.

Claim 3 was rejected as being unpatentable over the method of German patent '443 or German patent '556 in view of Ciarlini. Claim 3 concerns the erection of a building having inner floors and outer floors. The Examiner has implied that Ciarlini has constructed and hoisted inner and outer floors. An inner and outer floor construction is not apparent to applicant in Ciarlini's framework structure. The Examiner apparently considers the plurality of brackets 3 to be the inner floors, and a beam 4 bridging a pair of brackets 3 to be the outer floor. The framework structure of Ciarlini is thought not to be comparable to applicant's annular-shaped inner and outer floors. Claim 3 defines the inner floors as being annular, whereas the bracket 3 of Ciarlini apparently is angular-shaped and has two, three or four legmembers extending radially. It is not apparent to applicant how a beam 4 of Ciarlini could be considered a floor. It also is not understood how the "division of parts" rejection would apply. It is considered that no inner and outer floor construction is disclosed in the German patents '556 and '443, nor in the Ciarlini patent. Claim 3 distinguishes from the references for the same reasons given relative to claims 1 and 2 and for the reasons above-advanced relative to the inner and outer floor construction.

Claims 4-8 were rejected as being unpatentable over the art and reasons applied against the method of claim 3, when considering

British patent '696 or Walker et al. The Examiner stated that whether the method of either German patent has incorporated therein the steps of constructing inverted cone-shaped slabs with radial tensil bands as taught by British patent '696 or by Walker et al is a matter of choice of procedural expedients shown in the prior art.

Claim 4 has been amended in a manner similar to claim 3, and the arguments above-advanced for the allowance of claim 3 apply to claim 4.

Claims 5-8 depends from claims 1 and 4 and, in addition to the respective parent claims, describe the specific construction of the inner and outer floors. The British patent '696 does not include the erection of a solid inverted cone-shaped member in attached relationship around a hub, as recited in claims 6 and 8. The inverted cone-shaped member is not apparent in the British patent nor in the Walker et al patent. Applicant's floor construction method, as recited in claims 5 and 7, is also not thought to be shown in Walker et al or the British patent. Neither of these patents shows a floor constructing method of erecting spoke members which extend radially outwardly and upwardly from a hub section, constructing an outer ring attached to the spoke members adjacent the distal ends thereof, constructing an inner ring above the hub section, constructing rigid spacing means between the inner ring and the hub section, and constructing tensil members between the inner and outer rings. The above-recited steps of applicant's floor constructing method are in claims 5 and 7. Claim 7 additionally recites the construction of a tensil band around the outer ring. The above-cited methods of construction are not thought to be found in either the Walker et al or the British patent. Thus, independent claim 4 and claims 5-8 are thought to distinguish fairly from the references.

In summary, the application is now believed to be in condition for allowance, claims 1-4 and 9 having been amended, claims 5 and 6 depending from amended claim 1, and claims 7 and 8 depending from amended claim 4. Accordingly, formal favorable action is solicited.

Respectfully submitted,

R. Lee Fraser

By: John R. Walker

John R. Walker, III,
His Attorney

Erteilt auf Grund des Ersten Überleitungsgesetzes vom 8. Juli 1949
(WiGBl. S. 175)

BUNDESREPUBLIK DEUTSCHLAND

AUSGEGEBEN AM
14. MÄRZ 1955

DEUTSCHES PATENTAMT

PATENTSCHRIFT

№ 833 556

KLASSE 37f GRUPPE 701

I. 69i V / 37f

Dr.-Ing. Wilhelm Ludowici, Jockgrim (Pfalz)
ist als Erfinder genannt worden

Dr.-Ing. Wilhelm Ludowici, Jockgrim (Pfalz)

Verfahren zur Herstellung von Bauten

Patentiert im Gebiet der Bundesrepublik Deutschland vom 28. Dezember 1949 an
Patentanmeldung bekanntgemacht am 2. August 1951
Patenterteilung bekanntgemacht am 7. Februar 1952

Man hat auf verschiedene Weise versucht, bei mehrgeschossigen Bauten eine Verbilligung zu erzielen und die Bauzeit abzukürzen. Bei den Montagebauverfahren wird der Erfolg vielfach dadurch in Frage gestellt, daß die Transportkosten für die vorbereiteten Fertigteile zu hoch werden. Auch fehlen vielfach geeignete Transport- und Hebezeuge für die Montage der Bauelemente. Der Schalungsbau bei Betonbauten erfordert hohe Investitionen an Kapital; auch ist der Verschleiß des Schalungsmaterials so hoch, daß der Schalungsbau auch teuer wird, abgesehen davon, daß der Auf- und Abbau der Schalungen viel Zeit und Arbeitskräfte kostet. Man hat darum die verschiedensten Verfahren vorgeschlagen, die genannten Mängel zu umgehen. So hat man insbesondere bei dem Bau kleinerer Bauwerke, vorzugsweise eingeschossiger Bauten, Klappverfahren, sogenannte Tilt-up-Verfahren, entwickelt, bei denen die senkrechten Baustrie, insbesondere Wände, unmittelbar neben der Verwendungsstelle in einer waagerechten Schalung hergestellt und nach dem Abbinden aufgerichtet werden. Die Kosten für die Schalung werden hierbei sehr gering, denn es werden fast ausschließlich waagerechte, auf dem Boden liegende Schalungen benutzt, die keine großen und komplizierten Unterstützungen benötigen. Es ist ferner bekannt, auch ganze Dächer in Boden- oder Fundamenthöhe fertig auf den Fundamenten zu montieren und dann stufenweise, etwa durch hydraulische Pressen, zu heben, wobei jeweils die Tragemauern nachgemauert werden. Die Pressen werden dann auf die

nachgemauerten Teile gesetzt, und das Dach wird mit einer weiteren Stufe gebaut. Das angegebene Verfahren wird besonders bei der Errichtung von Bauwerken mit Kuppel- oder Zeltdächern angewandt, vorzugsweise beim Bau von Gasbehältern. Nicht anwendbar ist das Verfahren jedoch beim Bau mehrgeschossiger Bauwerke, wo außer dem Dach noch eine oder mehrere Geschoßdecken vorgesehen sind.

Gemäß der Erfindung besteht nun das Verfahren zur Herstellung von Bauten, bei dem horizontale Bauteile am Boden hergestellt und nachträglich in ihre endgültige Lage gehoben werden, darin, daß bei mehrgeschossigen Bauten die horizontalen Konstruktionsteile, wie z. B. Decken und Dachkonstruktionen, auf Boden- oder Fundamentböhe unmittelbar übereinander hergestellt oder montiert und dann erst nachträglich nacheinander als Fertigteile in ihre endgültige Lage hochgehoben werden.

Die Erfindung zeigt gegenüber den bekannten Verfahren wesentliche Vorteile, insbesondere dann, wenn es sich um die Errichtung größerer Bauwerke handelt. Während beispielsweise bei dem Klappverfahren (Tilt-up-Verfahren) die Wände liegend hergestellt und dann aufgeklappt werden und die Decken entweder aus Einzelteilen montiert oder nach dem alten Schalungsverfahren hergestellt werden, wenn man von weiteren komplizierten neueren Verfahren absieht, werden bei dem Verfahren nach der Erfindung die Balken und das Dach übereinander wie ein Palast angefertigt und an Stelle der Wände zunächst nur ein Stützenskelett eingebracht. Hierdurch ist sowohl bei den Decken wie auch bei den stützenden Elementen diejenige Form gewählt, die konstruktiv am günstigsten ist. Der Materialund Stahlbedarf kann ein Minimum werden, sowohl hinsichtlich durchlaufender Deckenplatten als auch der Schleudermaste. Das Stützenskelett läßt für die spätere Raumausnutzung alle Möglichkeiten offen. Sämtliche Außenwände können billig und schnell aus nicht tragenden Porenbaustoffen hergestellt werden. Geschoßweise kann für Außen- und Zwischenwände auch ein Klappverfahren, wie vorstehend beschrieben, Anwendung finden. Die Hohlräume der Stützen dienen bei der Montage zur Aufnahme der elektrischen oder mechanischen Leitungen, Seile u. dgl., später nach Fertigstellung als Kanäle für die Versorgungsleitungen, Nachrichtenleitung usw. Einer besonderen Sorgfalt bedarf die Ausbildung der Köpfe an den Stützen, nachdem die Deckenplatten in ihre endgültigen Stellungen gehoben sind. Die Öffnungen in den Decken, durch die die Stützen hindurchgehen, müssen so ausgefüllt werden und die Verankerung zwischen Deckenplatten und Stützen muß so ausgebildet sein, daß eine Pilzdecke entsteht und die statische Berechnung auf dieser Grundlage aufgebaut werden kann.

In den Zeichnungen wird die Erfindung in einem Ausführungsbeispiel erläutert.

Fig. 1 und 2 zeigen vier Gebäudedecken 1 bis 4, welche in Fig. 1 gemäß der Erfindung unmittelbar übereinander hergestellt und gelagert sind, während sie in Fig. 2 schematisch durch Pfeile angedeutet voneinander jeweils in Gebrauchslage abgehoben sind.

Fig. 3 zeigt eine Stütze 5, welche durch einen Stapel von sieben Geschoßdecken 6 bis 12 hindurchgeführt ist. Durch die hohle Stütze 5 ist ein Hubseil 13 hindurchgeleitet, welches von einem Windwerk über die Umlenkrolle 14 und die am Kopf der Stütze angeordnete weitere Umlenkrolle 15 mittels eines Seilschlosses 16 mit der obersten Deckenplatte 12 verankert ist.

In Fig. 4 ist durch Betätigung des Windwerks diese oberste Geschoßdecke 12 mittels des Hubseiles 13 angehoben und kann in ihrer endgültigen Lage mit der Stütze 5 verankert werden, wie dies bei einem Stahlbetonbau durch Vernieten oder Verschweißen oder bei einem Betonbauwerk durch Verankern und Vergießen erfolgen könnte.

Fig. 5 zeigt einen Stapel von sechs Gebäudedecken 17, welche zur Aufnahme der Stützen in den Stützenaussparungen Bohrungen 18 aufweisen, in welche diese Stützen 19 vor oder nach der Anfertigung der Geschoßdecken auf ihre jeweiligen Fundamente gestellt werden. Bei dem nachträglichen Einstellen der Stützen wird die erforderliche Bauung bei der Herstellung der Geschoßdecken durch Einsetzung eines entsprechenden Schalkörpers gesichert. Eine weitere Geschoßdecke 20 ist im Interesse der Übersichtlichkeit nur teilweise in gehobener Stellung dargestellt.

Fig. 6 zeigt ein Stützenfeld gemäß Fig. 5, wobei die Hubseile 21, 22, 23, 24, welche in den vier Stützen 25, 26, 27, 28 hochgeführt sind, über die Umleitrollen 29, 30, 31, 32 zu einem Gruppenwindwerk 33 geleitet werden. In diesem Gruppenwindwerk sind sämtliche Winden zusammengefaßt, so daß die gesamten Transport- und Hubbewegungen von einem einzigen Bedienungsstand aus geleitet werden können.

Die Zusammenfassung der Steuerorgane an einem Befehlsstand ermöglicht es, nicht nur mit sehr wenig Personal den Arbeitsvorgang durchzuführen, sondern auch die Steuerung in eine Hand zu legen und mit einem relativ kleinen Kraftbedarf dadurch auszukommen, daß die zahlreichen Hubbewegungen in einer taktmäßigen Folge durchgeführt werden können.

Nach Durchführung des Bauverfahrens gemäß der Erfindung dienen die zum Heben der Geschoßdecken verwendeten Stützen, wie oben bereits beschrieben, als tragende Elemente des Bauwerks in der bei Skelettbauten üblichen Weise.

Patentansprüche.

1. Verfahren zum Herstellen von Bauten, bei dem horizontale Bauteile am Boden hergestellt und nachträglich in ihre endgültige Lage gehoben werden, dadurch gekennzeichnet, daß bei mehrgeschossigen Bauten die horizontalen Konstruktionsteile, wie z. B. Decken und Dachkonstruktionen, auf Boden- oder Fundamenthöhe unmittelbar übereinander hergestellt bzw. mon-

tiert und dann erst nacheinander nacheinander als Fertigteile in ihre endgültige Lage hochgehoben werden.

2. Verfahren nach Anspruch 1, dadurch gekennzeichnet, daß die Kraftangriffspunkte von Hebezeugen in statisch bedingter Weise über die Fläche des jeweils zu hebenden Konstruktionsteils verteilt sind.

3. Verfahren nach Anspruch 1 und 2, gekennzeichnet durch die Aufstellung einer Anzahl von Masten von Hebezeugen oder Stützen von Skelettbauten in gruppenweiser Verteilung über die Deckenfläche, die durch Öffnungen in dem Paket der übereinanderliegenden horizontalen Konstruktionsteile hindurchgehen, und unterhalb derselben fundiert werden.

4. Verfahren nach Anspruch 1 und folgenden, dadurch gekennzeichnet, daß die Masten bzw. Stützen gestellt und dann die horizontalen Konstruktionsteile um diese Masten bzw. Stützen herum so hergestellt, beispielsweise betoniert werden, daß sie sich bei dem anschließenden Hochheben an diesen Masten führen.

5. Verfahren nach Anspruch 1 und folgenden, dadurch gekennzeichnet, daß die Masten oder Stützen durch bei der Herstellung des Paketes der horizontalen Konstruktionsteile ausgesparte Öffnungen hindurch in diese Fundierungen eingesetzt werden.

6. Verfahren nach Anspruch 1 und folgenden, dadurch gekennzeichnet, daß die Außenwände und gegebenenfalls auch die Innenwände nach einem Klappverfahren hergestellt werden.

7. Einrichtung zur Durchführung des Verfahrens nach Anspruch 1 und folgenden, dadurch gekennzeichnet, daß an dem Kopf der Masten oder Stützen jeweils eine Vorrichtung angebracht ist, welche mittels eines Zugorganes, beispielsweise eines Seiles, jeweils an einem Punkt des zu hebenden Konstruktionsteils, z. B. Deckenplatte, angreift, so daß eine Platte an einer Anzahl von Angriffspunkten, etwa entsprechend der Anzahl der Stützen, gehoben und in ihre Lage gebracht werden kann.

8. Einrichtung nach Anspruch 7, gekennzeichnet durch eine elektrische od. dgl. Winde am Kopf der Stütze od. dgl.

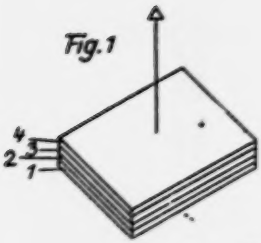
9. Einrichtung nach Anspruch 7, dadurch gekennzeichnet, daß am Kopf der Stütze eine Umlenkrolle zur Führung des Zugseiles befestigt ist und daß dieses Zugseil zweckmäßig im Innern der als Hohlkörper ausgebildeten Stütze zum Fußpunkt der Stütze geführt ist.

10. Einrichtung nach Anspruch 7 und folgenden, dadurch gekennzeichnet, daß die an den einzelnen Stützen angebrachten Hubvorrichtungen, z. B. Windwerke, auf elektrischem oder mechanischem, z. B. hydraulischem Wege mit einem zentralen Steuerstand, z. B. Gruppenwindwerk, verbunden sind, von welchem aus die gesamten Hub- und Senkbewegungen gesteuert werden können.

Hierzu 1 Blatt Zeichnungen

Zu der Patentschrift 833 556
KL. 37f Gr. 7m

Fig. 1



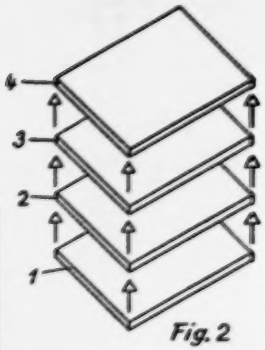


Fig. 2

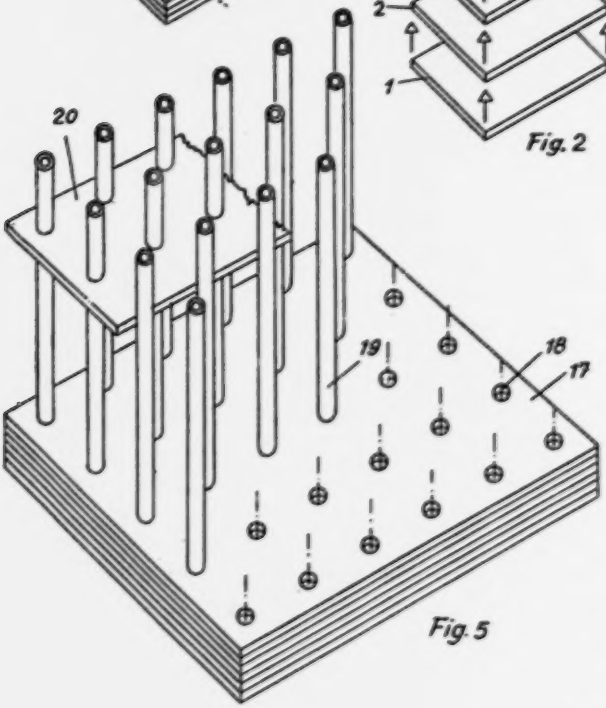


Fig. 5

Zu der Patentschrift 833 556
Kl. 37f Gr. 7a

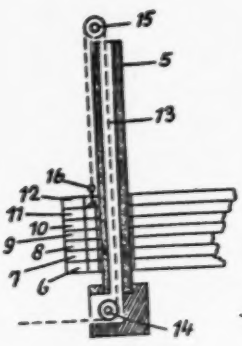


Fig. 3

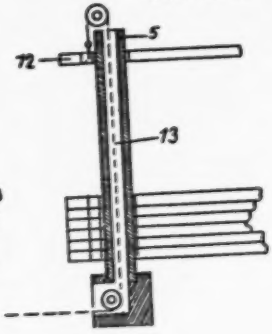


Fig. 4

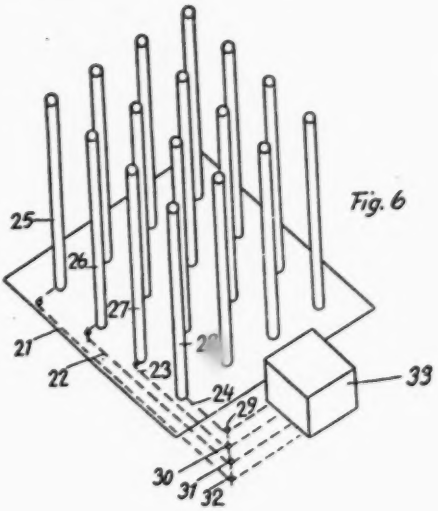


Fig. 6